

What is claimed is:

1. A data file system comprising:

a data access server that has a physical storage for storing data and accesses the physical storage in response to an access request; and

a data file server that performs data filing by transmitting an access request to the data access server and using the data access server for data saving,

wherein the data access server comprises:

a request reception section that receives the access request from the data file server;

an association table management section that has an association table describing an association between a plurality of physical blocks, which are storage blocks resulting from dividing the physical storage, and logical blocks recognized as storage blocks by the data file server and, when the access request is made by the data file server, if no physical block is assigned to the logical block to be accessed, assigns one of unused physical blocks to the logical block to be accessed;

a block conversion section that converts the logical block to be accessed into a physical block by referring to the association table when the access request is made by the data file server;

an access section that accesses the physical block provided by the block conversion section of the physical storage; and

a result transmission section that transmits the result of access by the access section to the data file server,

wherein the association table management section searches through logical blocks assigned respective physical
5 blocks for a logical block for which no access request is made within a predetermined period, releases the physical block assigned to the logical block from the association with the logical block and includes the physical block in unused physical block.

10 2. The data file system according to claim 1, wherein the data file server comprises an all-used-block-access request section that makes access requests to all the logical blocks used by the data file server within the predetermined period to the data access server.

15 3. A data file system comprising:

a data access server that has a physical storage for storing data and accesses the physical storage in response to an access request; and

a data file server that performs data filing by
20 transmitting an access request to the data access server and using the data access server for data saving,

wherein the data access server comprises:

a request reception section that receives the access request from the data file server;

25 an association table management section that has an association table describing an association between a plurality of physical blocks, which are storage blocks resulting from dividing the physical storage, and logical

blocks recognized as storage blocks by the data file server and, when the access request is made by the data file server, if no physical block is assigned to the logical block to be accessed, assigns one of unused physical blocks to the

5 logical block to be accessed;

a block conversion section that converts the logical block to be accessed into a physical block by referring to the association table when the access request is made by the data file server;

10 an access section that accesses the physical block provided by the block conversion section, of the physical storage; and

a result transmission section that transmits the result of access by the access section to the data file server,

15 wherein the data file server comprises a discrimination information transmission section that transmits, to the data access server, discrimination information that discriminates between logical blocks being used by the data file server and unused logical blocks of all the logical
20 blocks, and

wherein the association table management section searches through logical blocks assigned respective physical blocks for an unused logical block based on the discrimination information transmitted from the data file
25 server, releases the physical block assigned to the unused logical block from the association with the logical block and includes the physical block in unused physical block.

4. A data access server that has a physical storage for storing data and accesses the physical storage in response to an access request, comprising:

5 a request reception section that receives the access request from a data file server that performs data filing;

an association table management section that has an association table describing an association between a plurality of physical blocks, which are storage blocks resulting from dividing the physical storage, and logical
10 blocks recognized as storage blocks by the data file server and, when the access request is made by the data file server, if no physical block is assigned to the logical block to be accessed, assigns one of unused physical blocks to the logical block to be accessed;

15 a block conversion section that converts the logical block to be accessed into a physical block by referring to the association table when the access request is made by the data file server;

an access section that accesses the physical block
20 provided by the block conversion section, of the physical storage; and

a result transmission section that transmits the result of access by the access section to the data file server,

wherein the association table management section
25 searches through logical blocks assigned respective physical blocks for a logical block for which no access request is made within a predetermined period, releases the physical block assigned to the logical block from the association with

the logical block and includes the physical block in unused physical block.

5 5. A data access server that has a physical storage for storing data and accesses the physical storage in response to an access request, comprising:

 a request reception section that receives the access request from a data file server that performs data filing;

 an association table management section that has an association table describing an association between a
10 plurality of physical blocks, which are storage blocks resulting from dividing the physical storage, and logical blocks recognized as storage blocks by the data file server and, when the access request is made by the data file server, if no physical block is assigned to the logical block to be
15 accessed, assigns one of unused physical blocks to the logical block to be accessed;

 a block conversion section that converts the logical block to be accessed into a physical block by referring to the association table when the access request is made by the
20 data file server;

 an access section that accesses the physical block provided by the block conversion section, of the physical storage; and

 a result transmission section that transmits the result
25 of access by the access section to the data file server,

 wherein the association table management section searches through logical blocks assigned respective physical blocks for an unused logical block based on discrimination

information that is transmitted from the data file server and discriminates between logical blocks being used by the data file server and unused logical blocks of all the logical blocks, releases the physical block assigned to the unused
5 logical block from the association with the logical block and includes the physical block in unused physical block.

6. A data access program storage medium that stores a data access program that runs in an information processing device to make the information processing device operate as a data
10 access server which accesses a physical storage in response to an access request, the information processing device having the physical storage for storing data and allowing a program to run therein,

wherein the data access program storage medium stores
15 a data access program that makes the information processing device operate as a data access server comprising:

a request reception section that receives the access request from a data file server that performs data filing;
an association table management section that has an
20 association table describing an association between a plurality of physical blocks, which are storage blocks resulting from dividing the physical storage, and logical blocks recognized as storage blocks by the data file server and, when the access request is made by the data file server,
25 if no physical block is assigned to the logical block to be accessed, assigns one of unused physical blocks to the logical block to be accessed;

a block conversion section that converts the logical block to be accessed into a physical block by referring to the association table when the access request is made by the data file server;

5 an access section that accesses the physical block provided by the block conversion section, of the physical storage; and

a result transmission section that transmits the result of access by the access section to the data file server,
10 wherein the association table management section searches through logical blocks assigned respective physical blocks for a logical block for which no access request is made within a predetermined period, releases the physical block assigned to the logical block from the association with
15 the logical block and includes the physical block in unused physical block.

7. A data access program storage medium that stores a data access program that runs in an information processing device to make the information processing device operate as a data
20 access server which accesses a physical storage in response to an access request, the information processing device having the physical storage for storing data and allowing a program to run therein,

wherein the data access program storage medium stores
25 a data access program that makes the information processing device operate as a data access server comprising:

a request reception section that receives the access request from a data file server that performs data filing;

an association table management section that has an association table describing an association between a plurality of physical blocks, which are storage blocks resulting from dividing the physical storage, and logical blocks recognized as storage blocks by the data file server and, when the access request is made by the data file server, if no physical block is assigned to the logical block to be accessed, assigns one of unused physical blocks to the logical block to be accessed;

10 a block conversion section that converts the logical block to be accessed into a physical block by referring to the association table when the access request is made by the data file server;

an access section that accesses the physical block provided by the block conversion section, of the physical storage; and

a result transmission section that transmits the result of access by the access section to the data file server, wherein the association table management section
20 searches through logical blocks assigned respective physical blocks for an unused logical block based on discrimination information that is transmitted from the data file server and discriminates between logical blocks being used by the data file server and unused logical blocks of all the logical
25 blocks, releases the physical block assigned to the unused logical block from the association with the logical block and includes the physical block in unused physical block.